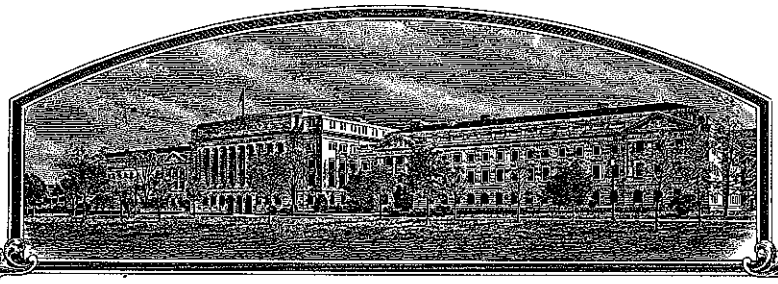
No. 200500089



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

University of Georgia Research Foundation, Inc. and
Florida Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'McIntosh'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this seventh day of August, in the year two thousand and six.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
University of Georgia Research Foundation
Florida Agricultural Experimental Station

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
GA931233E17

3. VARIETY NAME
McIntosh

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
Boyd Graduate Studies Research Center
6th Floor
D.W. Brooks Drive
Athens, GA 30602-7411

5. TELEPHONE *(include area code)*
(706) 542-5944

6. FAX *(include area code)*
(706) 542-3837

FOR OFFICIAL USE ONLY

PVPO NUMBER
200500089

FILING DATE
Jan. 18, 2005

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Corporation (UGARF) & University

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
GA

9. DATE OF INCORPORATION
November 17, 1978

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
University of Georgia Research Foundation and
Florida Agricultural Experimental Station
c/o John Ingle
Boyd Graduate Studies Research Center, 6th Floor
Athens, GA 30602-7411

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 3652.00
DATE 1-18-2005

CERTIFICATION FEE:
$ 768.00
DATE 3/21/2006

11. TELEPHONE *(Include area code)*
(706) 542-5944

12. FAX *(Include area code)*
(706) 542-3837

13. E-MAIL
kmb@ovpr.uga.edu

14. CROP KIND *(Common Name)*
Wheat (common)

16. FAMILY NAME *(Botanical)*
Triticum aestivum

15. GENUS AND SPECIES NAME OF CROP
Gramineae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☑ NO

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? *(OPTIONAL)*
☐ YES ☑ NO
IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED
(Follow instructions on reverse)

a. ☑ Exhibit A. Origin and Breeding History of the Variety
b. ☑ Exhibit B. Statement of Distinctness
c. ☑ Exhibit C. Objective Description of Variety
d. ☑ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☑ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☑ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☑ Filing and Examination Fee ($3,652), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 21 and 22 below)* ☑ NO *(If "no", go to item 23)*

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?
☐ YES ☐ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO
IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☑ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☑ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Gordhan L. Patel			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Gordhan L. Patel			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Executive Vice President	1-11-05		

(See reverse for instructions and information collection burden statement)

1

ST-470 (04-03) designed by the Plant Variety Protection Office using Word 2002.

Exhibit A

Origin and Breeding History of McIntosh

'McIntosh'(GA9312334E17) winter wheat (Triticum aestivum L.), was cooperatively developed and released by the Georgia and Florida Agricultural Experiment Stations in 2004. McIntosh was derived from a backcross, Gore *2 / T83267. The pedigree of Gore is Stacy / Coker 797; the pedigree of T83267 is Coker 916 / Florida 302.
The cross of McIntosh was made in the spring of 1993. The F1 was grown during the spring of 1994. The population was advanced from the F2 through F5 generations using the pedigree method of breeding with individual spikes selected for resistance to leaf rust (caused by *Puccinia recondita* (Roberge ex Desmaz), powdery mildew (caused by *Erysiphe graminis* DC. f. sp. *tritici* Em. Marchal), and septoria nodorum blotch (caused by Stagonospora nodorum (Berk) Castellani & E.G. Germano). Spikes were harvested, threshed individually and planted in single 1 meter headrows and were advanced to the next generation during the F2:3-, F3:4-, and F4:5-derived lines at Plains, GA. McIntosh is the F5:derived head row selected and advanced to Breeder Seed which was produced in the F10 generation.

McIntosh was evaluated as GA931233E17 for agronomic performance in nursery plots in 1999-2000, GA-FL state trials at five locations from 2001 to 2003, and in the Uniform Southern Soft Red Winter Wheat Nursery at 30 locations in 2002.

An increase strip of McIntosh was planted in 2001 from a small increase plot and was rogued thoroughly for aberrant types. Seeds from this increase strip was planted in an increase block (2 acres) of McIntosh in 2002 at the Foundation Seed Farm and rogued to remove variants. Seed from this large block was used for Breeder Seed for McIntosh in 2003. McIntosh has been observed for 3 generations of reproduction and during seed increase period and is stable and uniform. The variant consists of less than 3/10,000 awned types.

This Breeder seed of McIntosh was provided to the Georgia Seed Development Commission and will be the source of future seed multiplications. Breeder seed of McIntosh will be maintained by the Georgia Agricultural Experiment Station, University of Georgia, Georgia Station, Griffin, GA 30223-1797.

Exhibit B

Novelty Statement

McIntosh is a soft red winter wheat, awnless, and white chaffed. McIntosh is most similar in appearance to 'Roberts'; however, McIntosh has phenol test color of light brown whereas Roberts has a phenol test color of dark brown - black.

200500089

U.S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (Triticum spp.)

NAME OF APPLICANT(S) University of Georgia Research Foundation and Florida Agricultural Experimental Station

ADDRESS (Street No. or R.F.D. No, City, state, and Zip Code)
Boyd Graduate Studies Bldg.
University of Georgia
Athens, GA 30602

FOR OFFICAL USE ONLY

PVPO NUMBER

VARIETY NAME
McIntosh

TEMPORARY OR EXPERIMENTAL DESIGNATION

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. or) when number is either 99 or less 9 or less respectively. Data for quantitntive plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:
[1] 1 = Common 2 = Durum 3 = Club 4 = Other (SPECIFY) _____

2. VERNALIZATION:
[2] 1 = Spring 2 = Winter 3 = Other (SPECIFY) _____

3. COLEOPTILE ANTHOCYANIN:
[1] 1 = Absent 2 = Present

4. JUVENILE PLANT GROWTH:
[2] 1 = Prostrate 2 = Semi-erect 3 = Erect

5. PLANT COLOR (boot stage):
[1] 1 = Yellow - Green 2 = Green 3 = Blue - Green

6. FLAG LEAF (boot stage):
[1] 1 = Erect 2 = Recurved [1] = Not Twisted 2 = Twisted

7. EAR EMERGENCE:
[0][2] Number of Days Earlier Than USG 3592
[0][2] Number of Days Lat AGS 2000

8. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

9. PLANT HEIGHT (from soil to top of head, excluding awns):
[0][3] cm Taller Than AGS 2000
[0][1] cm Shorter Than Coker 9663

4

10. STEM:

A. ANTHOCYANIN

[1] 1 = Absent 2 = Present

B. WAXY BLOOM

[1] 1 = Absent 2 = Present

C. HAIRINESS (last internode of rachis)

[1] 1 = Absent 2 = Present

D. INTERNODE (SPECIFY NUMBER)_____

[1] 1 = Hollow 2 = Semi-solid 3 = Solid

E. PEDUNCLE

[1] 1 = Absent 2 = Present

[20] cm Length

11. HEAD (at Maturity)

A. DENSITY

[2] 1 = Lax 2 = Middense 3 = Dense

B. SHAPE

[1] 1 = Tapering 2 = Strap 3 = Clavate 4 = Other (SPECIFY) _____

C. CURVATURE

[1] 1 = Erect 2 = Inclined 3 = Recurved

D. AWNEDNESS

[2] 1 = Awnless 2 = Apically Awnletted 3 = Awnletted 4 = Awned

12. GLUMES (at Maturity)

A. COLOR

[1] 1 = White 2 = Tan 3 = Other (SPECIFY) _____

B. SHOULDER

[4] 1 = Wanting 2 = Oblique 3 = Rounded 4 = Awned 5 = Elevated 6 = Apiculate

C. BEAK

[2] 1 = Obtuse 2 = Acute 3 = Acuminate

D. LENGTH

[2] 1 = Short (ca. 7mm) 2 = Medium (ca. 8mm) 3 = Long (ca. 9mm)

E. WIDTH

[2] 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm 3 = Wide (ca. 4mm)

13. SEED

A. SHAPE

[2] 1 = Ovate 2 = Oval 3 = Elliptical

B. CHEEK

[1] 1 = Rounded 2 = Angular

C. BRUSH

[1] 1 = Short 2 = Medium 3 = Long

[1] 1 = Not Collared 2 = Collared

D. CREASE

[1] 1 = Width 60% or less of Kernel
1 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

[1] 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

13. SEED: (continued)

E. COLOR

[3] 1 = White 2 = Amber 3 = Red 4 = Other (SPECIFY) _____

F. TEXTURE

[2] 1 = Absent 2 = Present

G. PHENOL REACTION (see Instructions):

[3] 1 = Ivory 2 = Fawn 3 = Light Bro 4 = Dark Bro 5 = Black

14. DISEASE: (0 = Not Tested; 1 - Susceptible; 2 - Resistant; 3 - Intermediate; 4 - Tolerant)
PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

Stem Rust (*Puccinia graminis* f. sp. *tritici*)
[1] QTHJ, PTHS, TTTT

Stripe Rust (*Puccinia striiformis*)
[2] Field

Tan Spot (*Pyrenophora tritici-repentis*)
[1] Field

Halo Spot (*Selenophoma donacis*)
[ ]

Septoria nodorum (Glume Blotch)
[ ]

Septoria avenae (Speckled Leaf Disease)
[ ]

Septoria tritici (Speckled Leaf Blotch)
[ ]

Scab (*Fusarium* spp.)
[ ]

"Black Point" (Kernel Smudge)
[ ]

Barley Yellow Dwarf Virus (BYDV)
[4] Field

Soilborne Mosaic Virus (SBMV)
[2] Field

Wheat Yellow (Spindle Streak) Mosaic Virus
[ ]

Wheat Streak Mosaic Virus (WSMV)
[ ]

Other (SPECIFY)
[ ]

Other (SPECIFY)
[ ]

Other (SPECIFY)
[ ]

Leaf Rust (*Puccinia recondita* f. sp. *tritici*)
[2] SCJB, MBDS, CDBB, MCRJ CLGH, TLGJ

Loose Smut (*Ustilago tritici*)
[ ]

Flag Smut (*Urocystis agropyri*)
[ ]

Common Bunt (*Tilletia tritici or T. laevis*)
[ ]

Dwarf Bunt (*Tilletia controversa*)
[ ]

Karnal Bunt (*Tilletia indica*)
[ ]

Powdery Mildew (*Erysiphegraminis f. sp. tritici*)
[1] ABK, ASO, E2-15, E3-14 F7-11, PM4, YUMA

"Snow Molds"
[ ]

Common Root Rot (*Fusarium*, *Cochliobolus* and *Bipolaris* spp
[ ]

Rhizoctonia Root Rot (*Rhizoctonia solani*)
[ ]

Black Chaff (*Xanthomonas campestris pv. translucens*)
[ ]

Bacterial Leaf Blight (*Pseudomonas syringae pv. syringae*)
[ ]

Other (SPECIFY)
[ ]

Other (SPECIFY)
[ ]

Other (SPECIFY)
[ ]

6

14. DISEASE: (0 = Not Tested; 1 - Susceptible; 2 - Resistant; 3 - Intermediate; 4 - Tolerant)
PLEASE SPECIFY BIOTYPE (where needed

Hessian Fly (*Mayetiola destructor*)	[1] B, C, D, E, L	Other (SPECIFY)	[ ]
Stem Sawfly (*Cephus spp.*)	[0]	Other (SPECIFY)	[ ]
Cereal Leaf Beetle (*Oulema melanopa*)	[0]	Other (SPECIFY)	[ ]
Russian Aphid (*Diuraphis noxia*)	[0]	Other (SPECIFY)	[ ]
Greenbug (*Schizaphis graminum*)	[0]	Other (SPECIFY)	[ ]
Aphids	[0]	Other (SPECIFY)	[ ]

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

200500089

Exhibit D

Additional Description of McIntosh

McIntosh is a common soft red winter wheat, *Triticum aestivum* L. bred and developed by the University of Georgia, Georgia Agricultural Experiment Stations and developed jointly by Jerry W. Johnson and Ron D. Barnett with the University of Florida, Florida Agricultural Experimental Station.

McIntosh is a medium maturing, high yielding, excellent test weight, apically awnletted wheat with resistance to current races of leaf rust, Puccinia recondita (Roberge ex Desmaz) and susceptible to biotypes (biotype B, C, D, E, L) of Hessian flies, (Mayetiola destructor (Say), and susceptible to powdery mildew, (Erysiphe graminis DC. f. sp. tritici Em. Marchal) in Georgia. McIntosh is resistant to leaf rust races, SCJD, MBDS, CDBB, MCRJ, CLGH, and TLGJ.

Milling and baking quality characteristics of McIntosh are rated as acceptable for soft red winter wheat use by the USDA-Soft Wheat Quality Laboratory, Wooster, OH. Information on the milling and baking quality characteristics is also included in a quality report. Additional information is presented in attachment to the Exhibit.

LEAF RUST

2005000 89

St. Paul
MN

Reactions produced by NA race*

		SCJB	LBBH	MBDS	CBGG	LBGT	CDBB	MCRJ	CLGH	TLGJ	Postulated Genes***
1	Coker 9663	;	;	;	;	;	;	;	;	3	2a,9,10,11
2	AGS 2000	3	;	;	;	;	;	3	;	;	11,26,+
3	USG 3209	;	;	;	;	;	;	3	;	;	10,26
4	Pioneer 26R61	2c;	;	;lc	;	;	;	3	;	;	10,26
5	VA 98W-593	;	0;	;	;	;	;	;	;	;-3	+
6	AR 939-25-8-2	0;	;	;	;	;	;	;	;lc	;	+
7	AR-LA 85411	lc;	;	;	;	;	;	0;	;	3	2a,9,10,11
8	TX 98D2106	;	;	;	;	;	;	;	;	;	2a,11,26
9	G/F 92485E15	3	;	;	;	;	3	;	;	;	24,+
10	VA 98W-591	;	;	;	;	;	;	3	3	3;	11,+
11	VA 99W-200	3	;lc	;lc	3	3	;lc-3	3	;	;lc	1,11,18,+
12	TX 97-167	;lc2	;lc	;	;lc	3	;lc	;	;	;lc	+
13	SC 952746	;lc	;	;	;lc	;	;	;	;	;lc3	+
14	SC 960057	;	;	;lc	;lc2	;lcl	;lc	;	;	;	+
15	MDV 71-19	;lc	;	;	;	;	;	;lc	;	;lc	1,10,18,+
16	G 09139	;lc	3	;	-	3	;	3lc;	;lc2	;	+
17	G 96330	;	3	;	3	3	;	3lc;	;	3	0
18	G 97066	32	3	3	3	3	3	3;	3-;	3	+
19	TX 98D2577	;	;	;	;	;	;	;	;	;lc-3	+
20	TX 99D4709	;	;	;	;	;	;	;	;	;	0
21	AW D98*9762	3	3	3	3	3	3	3	3	3	+
22	AW D98*9770	;	;	;lc	;lc	;	;lc	;2c	;2c	;2c	0
23	AW D98*9764	3	3	3	3	3	3	3	3	3	+
24	AW D98-9213	3	lc;	3-;	3	3-;	;lc-3	3	3	3	+
25	G/F 931241E16	;	;	;	;	;	;	;	;2c	;2c	+
26	G/F 931463E27	;	0;	;	;	;	;	;	;	;3	9,+
27	G/F 93052E42	;	0;	;	;	;	;	;	;3	;3	9,+
28	F/G 931470E62	;	0;	;	;	;	;	;	3	3	+
29	F/G 931587	;	;	;	;	;	;	;	;	;	+
30	F/G 931233	;	2c;	;	;lc	;lc2	;	;	0;	;	1,10,18,+
31	B 961416	;	3	;	;	3-;	;lc;	;	;	3	2a,+
32	B 970205	3	;	;	;	;	;	;	0-;	;	2a,11,26
33	B 971155	3	;lc2	;lc2	;lc	;	;lc	;lc	;	;	+
34	LA 94242	;	;	;	;	;	;	;	;	3;	2a,9,10,11
35	LA 9397	;	;	;	;	;	;	;	;	3	2a,9,10,11
36	LA 9354	;	;lc	;	;lc	;	;	;	;	;	0
37	TN X-01-1	3	3	3	3	3	3	3	3-;	3	17,+
38	AR 910-9-1	3	;lc2	3	;	;2c2	;	;2c2	;	;-3	2a,9,10,11
39	NC 98-2614	;	-	;	;	;	;	;	;	3	2a,9,10,11
40	NC 98-2619	;	;	;	;	;	;	;	;	3	

*Single genes tested = 1,2a,2c,3,3Ka,9 14a,16,17,18,26,24,30,B

**Virulence Formula:

SCJB = 1,2a,2c,11,17,26
LBBH = 1,10,18
MBDS = 1,3,10,14a,17,B
CBGG = 3,10,11
LBGT = 1,10,11,14a,18,B

CDBB = 3,24
MCRJ = 1,3,3Ka,10,11,14a,26,30
CLGH = 3,9,10,11,18
TLGJ = 1,2a,2c,3,9,10,11,14a

*** += Lr gene(s) present but unable to identify with these Lr virulence combinations

9

HEIGHT (inches)

		Warsaw VA	ENTRY MEANS ALL LOCATIONS	rank
1	Coker 9663	33	35.4	9
2	AGS 2000	31	34.0	20
3	USG 3209	28	30.8	36
4	Pioneer 26R61	32	34.7	13
5	VA 98W-593	29	31.7	30
6	AR 839-25-8-2	33	34.0	19
7	AR-LA 85411	30	33.2	23
8	TX 98D2106	34	34.4	15
9	G/F 92485E15	31	33.9	22
10	VA 98W-591	30	31.9	28
11	VA 99W-200	28	31.5	32
12	TX 97-167	32	34.7	14
13	SC 952746	35	37.3	2
14	SC 960057	35	35.8	4
15	MDV 71-19	30	32.4	26
16	G 09139	28	30.9	35
17	G 96330	30	31.5	31
18	G 97066	34	35.1	11
19	TX 98D2577	30	32.1	27
20	TX 99D4709	28	32.8	25
21	AW D98*9762	29	33.9	21
22	AW D98*9770	33	35.8	5
23	AW D98*9764	32	34.9	12
24	AW D98-9213	34	35.4	8
25	G/F 931241E16	34	35.6	7
26	G/F 931463E27	30	32.9	24
27	G/F 93052E42	28	30.6	37
28	F/G 931470E62	27	29.8	39
29	F/G 931587E53	30	31.8	29
30	F/G 931233E17	33	35.1	10
31	B 961416	29	31.2	34
32	B 970205	30	34.1	17
33	B 971155	33	34.1	18
34	LA 94242-D4-2	34	34.2	16
35	LA 9397D5-2-2	26	29.0	40
36	LA 9354D9-3-1	31	30.1	38
37	TN X-01-1	36	37.3	1
38	AR 910-9-1	32	35.7	6
39	NC 98-26143	37	36.2	3
40	NC 98-26192	30	31.3	33
LOCATION MEANS		31.2		

10

2005000 89

HEADING DATE (Julian)

	Ellis Co. TX	Blacksburg VA	Warsaw VA	ENTRY MEANS ALL LOCATIONS	rank
1 Coker 9663	99.7	121	107	114.4	10
2 AGS 2000	99.7	120	106	113.6	6
3 USG 3209	100.0	122	106	114.8	12
4 Pioneer 26R61	101.7	123	108	115.0	16
5 VA 98W-593	100.3	123	109	116.1	24
6 AR 839-25-8-2	102.0	124	112	116.9	28
7 AR-LA 85411	100.3	124	110	115.4	21
8 TX 98D2106	102.0	124	111	117.0	30
9 G/F 92485E15	99.0	121	107	114.0	8
10 VA 98W-591	101.0	123	109	116.9	29
11 VA 99W-200	98.0	118	107	111.9	1
12 TX 97-167	101.3	123	109	116.3	25
13 SC 952746	103.0	123	109	114.6	11
14 SC 960057	105.3	122	111	117.7	35
15 MDV 71-19	102.0	123	110	117.7	34
16 G 09139	97.7	123	107	114.4	9
17 G 96330	101.3	124	110	117.9	36
18 G 97066	102.0	124	110	117.1	32
19 TX 98D2577	100.7	123	108	115.0	14
20 TX 99D4709	99.0	121	108	113.1	3
21 AW D98*9762	100.7	124	109	115.2	17
22 AW D98*9770	99.7	124	110	115.2	18
23 AW D98*9764	101.0	125	110	115.3	20
24 AW D98-9213	102.0	124	111	119.4	38
25 G/F 931241E16	102.0	124	109	117.3	33
26 G/F 931463E27	99.7	123	107	115.0	15
27 G/F 93052E42	99.7	121	107	113.7	7
28 F/G 931470E62	98.7	122	104	113.1	4
29 F/G 931587E53	101.0	123	108	115.2	19
30 F/G 931233E17	100.3	123	110	115.6	22
31 B 961416	100.7	123	109	117.0	31
32 B 970205	99.0	123	108	114.8	13
33 B 971155	103.0	126	111	120.2	39
34 LA 94242-D4-2	104.3	125	111	116.5	26
35 LA 9397D5-2-2	99.7	122	109	113.5	5
36 LA 9354D9-3-1	105.7	128	112	116.7	27
37 TN X-01-1	104.3	128	112	120.7	40
38 AR 910-9-1	98.7	121	106	112.9	2
39 NC 98-26143	101.3	128	112	118.3	37
40 NC 98-26192	101.3	122	110	115.9	23
LOCATION MEANS	101.0	123.2	109.0		

11

STEM RUST

St. Paul
MN

		80-MN-633B TPMK	72-MEX-52A RTQQ	99-EGY-5B RRTS	69-MN-399 QTHJ	98-UGA-1A PTHS	01-TX-27C TTTT
1	Coker 9663	S	0	2=	0	0	S
2	AGS 2000	0;	2=	;	0	0	2=
3	USG 3209	1	2=	1	0	0	2=
4	Pioneer 26R61	1-	2=	2=	2-	2=	2=
5	VA 98W-593	;	2=	2=	2=	2=	2=
6	AR 839-25-8-2	2,;	S	2=	S	S	S
7	AR-LA 85411	2	;	2=,S	S	S	S
8	TX 98D2106	0	2-,S	2,S	2-	2-	S
9	G/F 92485E15	1	1-	;1	2=	2-	2=
10	VA 98W-591	1	;	;1	2=	2=	;1
11	VA 99W-200	S	;,S	S	2	S	S
12	TX 97-167	2-	2	2-	2	S	S
13	SC 952746	0	;	S	S	S	S
14	SC 960057	1	0	2	2-	2-	2
15	MDV 71-19	1	1-	1-	0	0	2=
16	G 09139	2=,S	0;	2=	0	0	2-2
17	G 96330	S	0;	2-,S	0;	;	S
18	G 97066	S	S	S	2	S	S
19	TX 98D2577	S	0;,S	2=	;1-	2	2-2
20	TX 99D4709	1	1-	2=	2-	2-	2=
21	AW D98*9762	2-	S	1	2-	S	22+
22	AW D98*9770	S	23	S	S	S	S
23	AW D98*9764	S,2	23	2-	S	S	S
24	AW D98-9213	S	S	S	S	S	S
25	G/F 931241E16	S	;	1	S	S	S
26	G/F 931463E27	S	;1n	2	S	S	S
27	G/F 93052E42	2	;1-n	2	2,S	S	S
28	F/G 931470E62	S	Xn	---	0	0	S
29	F/G 931587E53	2=	0;	1	2=	2=	2-
30	F/G 931233E17	2-,S	23c	2-	S	S	S
31	B 961416	2-	0	2=	0	0	2,S
32	B 970205	S	;1n	S	;1-	;1-	S
33	B 971155	2=	2=	;1	2=	2=	;1
34	LA 94242-D4-2	2-	;	1	2=/	2=	;1
35	LA 9397D5-2-2	2-	S	2	0	0	S
36	LA 9354D9-3-1	S	---	2	0	0	S
37	TN X-01-1	23	S	S	S	S	S
38	AR 910-9-1	23	X	S	S	S	S
39	NC 98-26143	23	;1n	S	S	S	S
40	NC 98-26192	2	0	2	2	S	S

12

POWDERY MILDEW

2005000 89

Raleigh
NC

		F7-12	Mo10	Pm4	Yuma	WKin91
3	USG 3209	R	RM	R	R	R
4	Pioneer 26R61	R	RM	R	R	M
16	G 09139	S	S	S	S	S
17	G 96330	S	S	S	S	S
18	G 97066	S	S	S	S	S
19	TX 98D2577	S	S	S	S	S
20	TX 99D4709	S	S	S	S	S
21	AW D98*9762	S	S	S	S	S
22	AW D98*9770	S	S	S	S	S
23	AW D98*9764	S	S	S	S	S
24	AW D98-9213	S	S	S	S	S
25	G/F 931241E16	S	S	S	RS	S
26	G/F 931463E27	R	M	RS	R	M
27	G/F 93052E42	RM	R	RM	RM	RM
	Chancellor	S	S	S	S	S
28	F/G 931470E62	R	RM	RM	R	R
29	F/G 931587E53	S	S	M	S	S
30	F/G 931233E17	S	S	S	S	S
31	B 961416	S	S	S	S	S
32	B 970205	S	S	S	S	S
33	B 971155	M	M	M	RM	S
34	LA 94242-D4-2	RS	M	RM	RS	RS
35	LA 9397D5-2-2	S	S	S	S	S
36	LA 9354D9-3-1	S	S	S	S	S
37	TN X-01-1	S	S	S	S	S
38	AR 910-9-1	S	S	S	S	S
39	NC 98-26143	R	R	R	R	S
40	NC 98-26192	S	S	S	S	S
	Chancellor	S	S	S	S	S

13

POWDERY MILDEW

Raleigh
NC

		ABK	Aso	E2-15	E3-14	F7-11
3	USG 3209	M	R	M	RM	RM
4	Pioneer 26R61	M	RM	M	R	R
16	G 09139	S	S	S	S	S
17	G 96330	S	S	S	S	S
18	G 97066	S	S	S	S	S
19	TX 98D2577	S	S	S	S	S
20	TX 99D4709	S	S	S	S	S
21	AW D98*9762	S	S	S	S	S
22	AW D98*9770	S	S	S	S	S
23	AW D98*9764	S	S	S	S	S
24	AW D98-9213	S	S	S	S	S
25	G/F 931241E16	S	S	S	S	S
26	G/F 931463E27	RS	M	RM	RM	RM
27	G/F 93052E42	R	M	M	RM	R
	Chancellor	S	S	S	S	S
28	F/G 931470E62	R	R	R	RS	R
29	F/G 931587E53	S	S	S	S	S
30	F/G 931233E17	S	S	S	S	S
31	B 961416	S	S	S	S	S
32	B 970205	S	S	S	S	S
33	B 971155	S	RM	S	S	S
34	LA 94242-D4-2	M	RM	RM	S	S
35	LA 9397D5-2-2	S	S	S	S	S
36	LA 9354D9-3-1	S	S	S	S	S
37	TN X-01-1	S	S	S	S	S
38	AR 910-9-1	S	S	S	S	R
39	NC 98-26143	M	R	R	M	R
40	NC 98-26192	S	S	S	S	S
	Chancellor	S	S	S	S	S

14

HESSIAN FLY

W. Lafayette
IN

		Biotype B	Biotype C	Biotype D	Biotype E	Biotype L
1	Coker 9663	0 - 15	7 - 7	5 - 8	3 - 6	0 -13
2	AGS 2000	6 - 10	3 - 12	6 - 13	3 - 8	5 - 8
3	USG 3209	12 - 2	0 - 15	0 - 13	13 - 0	0 - 15
4	Pioneer 26R61	0 - 15	0 - 14	1 - 11	17 - 0	2 - 10
5	VA 98W-593	0 - 16	0 - 10	0 - 10	0 - 13	0 - 11
6	AR 839-25-8-2	0 - 10	1 - 13	0 - 16	0 - 11	0 - 13
7	AR-LA 85411	0 - 16	0 - 16	0 - 14	8 - 4	0 - 14
8	TX 98D2106	15 - 0	4 - 11	2 - 12		0 - 12
9	G/F 92485E15	0 - 16	0 - 14	0 - 15	13 - 0	0 - 10
10	VA 98W-591	0 - 15	8 - 12	1 - 7	2 - 12	0 - 12
11	VA 99W-200	16 - 1	0 - 16	0 - 16	10 - 2	1 - 15
12	TX 97-167	8 - 5	0 - 15	0 - 16	13 - 0	4 - 9
13	SC 952746	0 - 14	0 - 11	1 - 12	1 - 7	0 - 10
14	SC 960057	15 - 0	1 - 13	2 - 12	12 - 0	0 - 12
15	MDV 71-19	7 - 10	7 - 6	0 - 13	6 - 5	0 - 16
16	G 09139	0 - 16	0 - 16	0 - 17	0 - 13	0 - 15
17	G 96330	0 - 15	0 - 12	0 - 11	0 - 12	0 - 15
18	G 97066	14 - 0	5 - 5	0 - 12	14 - 0	1 - 13
19	TX 98D2577	0 - 16	0 - 12	0 - 17	0 - 10	0 - 11
20	TX 99D4709	0 - 15	2 - 9	0 - 5	0 - 8	0 - 11
21	AW D98*9762	0 - 15	0 - 16	0 - 12	2 - 11	0 - 16
22	AW D98*9770	0 - 18	0 - 17	0 - 14	0 - 16	0 - 11
23	AW D98*9764	1 - 16	0 - 15	0 - 11	1 - 10	0 - 15
24	AW D98-9213	0 - 19	0 - 15	0 - 15	0 - 15	0 - 15
25	G/F 931241E16	0 - 17	14 - 1	0 - 11	14 - 0	0 - 14
26	G/F 931463E27	0 - 15	4 - 8	0 - 14	0 - 15	0 - 15
27	G/F 93052E42	0 - 18	5 - 8	0 - 10	0 - 14	0 - 13
28	F/G 931470E62	0 - 15	6 - 7	0 - 14	0 - 12	0 - 10
29	F/G 931587E53	0 - 16	0 - 14	0 - 12	13 - 0	0 - 13
30	F/G 931233E17	0 - 17	0 - 14	0 - 14	2 - 13	0 - 17
31	B 961416	15 - 0	0 - 13	0 - 13	11 - 1	0 - 17
32	B 970205	14 - 1	11 - 9	0 - 17	15 - 0	0 - 17
33	B 971155	16 - 0	0 - 16	15 - 0	17 - 0	16 - 0
34	LA 94242-D4-2	0 - 8	0 - 12	0 - 10	0 - 10	0 - 9
35	LA 9397D5-2-2	0 - 10	0 - 13	0 - 17	0 - 12	0 - 17
36	LA 9354D9-3-1	0 - 9	0 - 4	0 - 5	0 - 5	0 - 10
37	TN X-01-1	0 - 15	6 - 9	0 - 14	0 - 17	0 - 16
38	AR 910-9-1	0 - 17	0 - 15	0 - 16	0 - 12	0 - 16
39	NC 98-26143	0 - 16	5 - 8	0 - 12	0 - 15	0 - 16
40	NC 98-26192	2 - 14	14 - 2	7 - 7	13 - 0	2 - 12

15

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

STD = #2502, AGS2000

LAB NO.			IFLOUR (YIELD %		FLOUR PROT. %	MICRO AWRC %		COOKIE DIAM. CM.		TOP GR.	LACTIC ACID RET'N
		STANDARD	74.1		9.74	59		17.31		3	102.4
2501	1	Coker 9663	71.5	Q	9.15	56.725		17.25		4	111.6
2502	2	AGS 2000	74.1		9.74	59.035		17.31		3	102.5
2503	3	USG 3209	70.2	Q	9.48	62.693	Q	16.88	*	3	108.4
2504	4	Pioneer 26R61	71.2	Q	10.48	57.704		17.08		4	109.8
2505	5	VA 98W-593	71.1	Q	9.07	60.767	*	17.10		3	121.4
2506	6	AR 839-25-8-2	73.3	*	9.71	57.54		17.48		3	110.8
2507	7	AR-LA 85411	72.4	Q	9.50	58.14		17.61		4	125.1
2508	8	TX 98D2106	69.6	Q	11.06	57.396		16.76	Q	3	103.9
2509	9	G/F 92485E15	71.5	Q	10.30	59.465		17.10		2	107.4
2510	10	VA 98W-591	70.9	Q	9.49	60.297		17.18		4	121.5
2511	11	VA 99W-200	71.5	Q	8.94	58.097		18.11		5	119.1
2512	12	TX 97-167	71.1	Q	10.00	60.702	*	17.23		2	134.0
2513	13	SC 952746	73.6		9.29	65.205	Q	15.56	Q	2	99.8
2514	14	SC 960057	72.3	Q	10.02	57.135		17.49		4	104.4
2515	15	MDV 71-19	71.3	Q	10.06	62.301	Q	17.70		4	101.6
2516	16	G 09139	70.9	Q	10.09	56.832		17.22		3	124.6
2517	17	G 96330	69.8	Q	9.52	56.984		17.55		3	118.6
2518	18	G 97066	71.1	Q	9.26	56.541		17.60		4	110.6
2519	19	TX 98D2577	70.9	Q	10.11	56.572		17.73		4	122.9
2520	20	TX 99D4709	67.9	Q	11.03	58.533		16.27	Q	2	136.5
2521	21	AW D98*9762	71.9	Q	9.19	58.645		17.49		4	128.4
2522	22	AW D98*9770	72.1	Q	9.26	57.046		17.54		2	137.7
2523	23	AW D98*9764	71.8	Q	9.34	56.545		17.78		5	120.8
2524	24	AW D98-9213	71.6	Q	9.09	55.921		18.40		6	118.9
2525	25	G/F 931241E16	71.1	Q	9.00	58.531		17.61		4	119.1
2526	26	G/F 931463E27	70.6	Q	9.11	55.528		18.03		5	105.4
2527	27	G/F 93052E42	71.1	Q	9.35	55.27		18.46		5	103.9
2528	28	F/G 931470E62	71.4	Q	9.55	54.358		17.73		4	111.7
2529	29	F/G 931587E53	70.4	Q	9.97	62.272	Q	17.45		3	96.9
2530	30	F/G 931233E17	71.2	Q	8.89	57.007		17.77		3	112.5
2531	31	B 961416	70.6	Q	9.86	57.967		17.96		4	100.0
2532	32	B 970205	71.8	Q	8.48	61.689	*	17.76		4	107.6
2533	33	B 971155	69.2	Q	10.04	60.789	*	17.43		2	98.0
2534	34	LA 94242-D4-2	71.1	Q	10.71	59.085		17.15		1	98.4
2535	35	LA 9397D5-2-2	71.5	Q	9.72	54.281		18.11		4	120.2
2536	36	LA 9354D9-3-1	70.6	Q	10.21	59.883		17.49		2	95.6
2537	37	TN X-01-1	72.1	Q	8.62	62.238	*	17.74		3	105.3
2538	38	AR 910-9-1	72.7	*	9.39	56.815		18.01		5	111.7
2539	39	NC 98-26143	71.5	Q	9.37	57.19		17.90		5	103.6
2540	40	NC 98-26192	71.6	Q	10.08	57.086		17.71		2	109.0

16

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

STD = #2502, AGS2000

LAB NO.			MILLING QUALITY SCORE		BAKING QUALITY SCORE		COMBINED QUALITY SCORE		MICRO T.W. LB/BU		SOFT. EQUIV. %	
		STANDARD	100.0	A	100.0	A	100.0	A	61.4		59.0	
2501	1	Coker 9663	86.6	D	97.0	B	86.6	D	59.6	*	54.5	*
2502	2	AGS 2000	100.0	A	99.9	A	99.9	A	61.4		59.0	
2503	3	USG 3209	82.5	E	78.3	F	78.3	F	60.4		55.5	*
2504	4	Pioneer 26R61	86.8	D	94.0	C	86.8	D	61.9		55.3	*
2505	5	VA 98W-593	86.3	D	87.2	D	86.3	D	62.4		54.8	*
2506	6	AR 839-25-8-2	93.6	C	102.2	A	93.6	C	60.4		54.8	*
2507	7	AR-LA 85411	92.6	C	105.9	A	92.6	C	61.2		57.7	
2508	8	TX 98D2106	76.5	F	81.8	E	76.5	F	60.6		49.7	Q
2509	9	G/F 92485E15	88.2	D	91.5	C	88.2	D	61.8		56.0	
2510	10	VA 98W-591	87.8	D	93.7	C	87.8	D	61.9		58.7	
2511	11	VA 99W-200	89.9	D	107.1	A	89.9	D	61.1		58.9	
2512	12	TX 97-167	89.0	D	95.2	B	89.0	D	60.8		60.2	
2513	13	SC 952746	87.1	D	30.7	F	30.7	F	61.1		42.0	Q
2514	14	SC 960057	88.4	D	101.4	A	88.4	D	58.5	Q	53.7	*
2515	15	MDV 71-19	89.8	D	98.1	B	89.8	D	60.6		60.3	
2516	16	G 09139	86.6	D	99.8	B	86.6	D	60.0	*	58.2	
2517	17	G 96330	80.9	E	104.5	A	80.9	E	59.9	*	55.8	*
2518	18	G 97066	86.9	D	104.9	A	86.9	D	61.4		56.3	
2519	19	TX 98D2577	85.9	D	105.4	A	85.9	D	60.3		56.7	
2520	20	TX 99D4709	72.8	F	74.3	F	72.8	F	59.5	*	54.4	*
2521	21	AW D98*9762	91.7	C	106.1	A	91.7	C	59.5	*	60.3	
2522	22	AW D98*9770	92.0	C	107.5	A	92.0	C	60.5		59.0	
2523	23	AW D98*9764	89.4	D	106.4	A	89.4	D	59.2	*	57.8	
2524	24	AW D98-9213	90.3	C	108.3	A	90.3	C	60.3		59.8	
2525	25	G/F 931241E16	90.2	C	108.6	A	90.2	C	61.5		61.6	
2526	26	G/F 931463E27	85.7	D	106.7	A	85.7	D	60.1	*	58.1	
2527	27	G/F 93052E42	87.3	D	106.7	A	87.3	D	59.7	*	58.1	
2528	28	F/G 931470E62	87.9	D	104.5	A	87.9	D	61.6		55.8	
2529	29	F/G 931587E53	84.3	E	93.8	C	84.3	E	59.8	*	57.7	
2530	30	F/G 931233E17	88.1	D	105.8	A	88.1	D	61.6		57.2	
2531	31	B 961416	86.2	D	107.1	A	86.2	D	60.7		58.6	
2532	32	B 970205	91.6	C	99.0	B	91.6	C	61.7		59.6	
2533	33	B 971155	80.5	E	97.9	B	80.5	E	60.1	*	58.7	
2534	34	LA 94242-D4-2	83.5	E	88.8	D	83.5	E	61.3		51.1	Q
2535	35	LA 9397D5-2-2	89.6	D	108.0	A	89.6	D	59.6	*	59.5	
2536	36	LA 9354D9-3-1	84.8	E	100.1	A	84.8	E	59.7	*	57.2	
2537	37	TN X-01-1	95.2	B	99.5	B	95.2	B	59.9	*	64.3	
2538	38	AR 910-9-1	93.3	C	106.1	A	93.3	C	60.5		57.5	
2539	39	NC 98-26143	90.0	C	108.4	A	90.0	C	60.1	*	59.9	
2540	40	NC 98-26192	91.2	C	108.5	A	91.2	C	62.0		60.1	

17

ATTACHMENT I

APPLICATION FOR APPROVAL OF__ CULTIVARS _X_ ASSOCIATE CULTIVARS

(Please check appropriate type of application)

1. Crop: Wheat

2. Experimental no. or name: 931233E17

3. Pedigree and history: Gore *2 / T83267. The final cross was made in the spring of 1993. Individual spike selections were made in the F2 to F5 generations at Griffin, GA. The pedigree method of breeding was used to advance the segregating populations. In 1998, a headrow was harvested for preliminary evaluations. Agronomic evaluations were conducted from 2001 to 2003 in the Small Grain State Performance trials for Georgia. It was evaluated in 2003 in the Uniform Southern Wheat Nursery.

4. Description: 931233E17 is a medium maturing, white chaffed, medium-tall height line. It matures on average 2 days later than AGS 2000 in the region. It is resistant to currently biotypes of Hessian fly and moderately resistant to races of powdery mildew, and susceptible to leaf rust in Georgia. It is resistant to soil-borne mosaic virus and to stripe rust.

5. Station(s) where developed: Griffin Campus

6. Participating scientist(s): Jerry Johnson, Barry Cunfer, G. David Buntin, and Dan Bland

7. In what respect is the new cultivar superior to the cultivar now in use? or reasons for proposing release as an associate cultivar.

GA931233E17 was approved by the Small Grain Commodity Committee for release. This cultivar will be released as an Associate Cultivar due to its susceptibility to leaf rust. GA931233E17 is a high-yielding (Tables 1, 3, 4), medium maturing and good test weight (Tables 2, 5) cultivar.

It is equal to AGS 2000 in grain yield (Tables 1, 3, 4).

It is higher than AGS 2000 in test weight (Table 2, 6).

It has better stripe rust (Table 10) and soil-borne mosaic virus resistance than AGS 2000 (Tables 7, 10).

In regional trials, GA931233E17 performed equal to AGS 2000 for grain yield when averaged across all locations (30 locations) (Table 8) and within the Mid-South and Atlantic Coast region at 12 locations in 2002 (Table 9). It ranked 8th out of 40 entries in the

2002 regional trials. Because of its yielding ability and soil-borne mosaic virus and stripe rust resistance, it will be marketing in the Mid-South and Mid-Atlantic region.

8. Method of propagation: Seed

9. Amount of breeder seed stocks available (if applicable): 60 bu.

10. Amount of foundation seed stocks available (if applicable): 2000 bushel in summer of 2004.

11. Amount of cutting or bud material available for vegetative propagated material for nursery distribution (if applicable):

12. Is there likely to be unusual difficulty encountered in the production of any class of seed stocks? Explain. No

13. Three suggested names for the cultivar: GA931233E17

14. Name approved by plant cultivar and germplasm release committee: GA931233E17

15. Form of intellectual property protection: Plant Variety Protection

16. Is a royalty assessment recommended: X Yes __ No

931233E17

RECOMMENDED BY:

A. _____
Originating Scientist

B. _____
Department Head

C. _____
Assistant Dean

D. _____
Chairperson, GAES Plant Cultivar and Germplasm Release Committee

E. _____
Associate Dean for Research

APPROVED:

_____

Dean and Director
College of Agricultural & Environmental Sciences

20

Table 1. Average yield performance of 931233E17 and check cultivars in Elite Wheat Trials 2000.

	Location				
Entry	Griffin	Plains	Calhoun	Midville	Average
931233E17	95	115	72	95	94.2a
AGS 2000	98	116	83	107	100.7a

Table 2. Performance of 931233E17 and check cultivars in Elite Wheat Trials at Plains, 2000.

Entry	Test Wt. lbs/bu	Date Headed	Height in
931233E17	61.2a	3/31	40
AGS 2000	60.2b	3/26	38

Table 3. Average yield performance of 931233E17 and check cultivars in Elite Wheat Trials 2001.

	Location					
Entry	Griffin	Plains	Midville	MS	AL	Average
931233E17	63	118	93	95	72	88a
AGS 2000	70	117	89	100	64	88a

MS- Mississippi

AL- Alabama

Table 4. Average yield performance of 931233E17 and check cultivars in State Performance Trials for 2-Yr Average (2002-2003).

Entry	South	North	State
931233E17	54.1b	63.1a	56.4b
AGS 2000	55.1ab	66.0a	57.8ab
PIO 26R61	58.9a	63.4a	60.0a

Table 5. Average yield performance of 931233E17 and check cultivars in State Performance Trials at five locations 2-Yr (2002-2003).

	Location					
Entry	Tifton	Plains	Midville	South	Griffin	Average
931233E17	57.5	51.0	53.9	54.1b	63.1	56.4b
AGS 2000	61.7	41.7	62.0	55.1ab	66.0	57.8ab
PIO26R61	65.3	52.1	59.3	58.9a	63.4	60.0a

Table 6. Performance of 931233E17 and check cultivars in State Performance Trials for 2-Yr average (2002-2003).

Entry	Test Wt. lbs/bu	Date Headed	Height in
931233E17	55.6a	4/5	41
AGS 2000	54.4b	4/4	38
PIO26R61	56.3a	4/5	39

Table 7. Average performance of 931233E17 and check cultivars in State Performance Trials for 2002.

Entry	Leaf Rust %	Hessian Fly %	Soil-borne Virus* 0-9
931233E17	70b	7.8a	1a
AGS 2000	10a	12.2a	9c
PIO 26R61	80b	0.0a	5b

*Soil-borne mosaic, 0 resistant and 9 susceptible

Table 8. Average performance of 931233E17 and check cultivars in the Uniform Southern Soft Red Winter Wheat Nursery (30 Locations*), 2002.

	Yield, bu/a		Test Wt	Date	Height	Lodging
Entry	All	Region	Lbs/Bu	Headed	inches	0-9
931233E17	61	60	58.0	116	35	2.6
AGS 2000	62	61	57.2	114	34	2.6
P 26R61	57	56	58.9	115	35	1.6

* States and (Number of Locations) tested: Arkansas (3), Florida (2), Georgia (2), Kansas (2), Kentucky (1), Louisiana (1), Maryland (1), Missouri (1), Mississippi (1), Tennessee (1), Texas (2), Virginia (2).

Table 9. Average performance of 931233E17 and check cultivars in the Uniform Southern Soft Red Winter Wheat Nursery in Mid-South and Atlantic over 12 locations,

	Yield, Bu/A												
Entry	K	D	AL	KY	MS	TN	OH	LA	SC	VA	DE	MD	Average
931233E17	66	64	56	76	61	35	67	58	48	99	91	79	66.6
AGS 2000	65	71	52	62	72	36	66	79	58	94	79	82	68.0
P 26R61	61	73	50	57	65	34	62	70	55	82	63	65	61.4
LSD (5%)	11	9	9	11	11	12	9	9	8	7	7	8	6.2

K= Keiser, AR
D= DeWitt, AR

Table 10. Performance of 931233E17 and check cultivars in Uniform Southern Wheat Performance Trials for 2002.

	Stripe Rust %			Viruses* 0-9	
Entry	AR	WA	GA	AR	GA
931233E17	0	10	5	3.0	0
AGS 2000	37	60	40	7.0	9
PIO 26R61	0	0	0	0.0	0

*Soil-borne mosaic, 0 resistant and 9 susceptible

REPRODUCE LOCALLY. Include form number and edition date on all reproductions. FORM APPROVED - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
University of Georgia Research Foundation Florida Agricultural Experimental Station	GA931233E17	McIntosh
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)* Boyd Graduate Studies Center 6th floor D.W. Brooks Drive Athens, GA 30602-7411	**5. TELEPHONE** *(Include area code)* (706) 542-5944	**6. FAX** *(Include area code)* (706) 542-3837
	7. PVPO NUMBER 200500089	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☑ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☑ YES ☐ NO

10. Is the applicant the original owner? ☐ YES ☑ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
☑ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

200500089

Exhibit E

11. Additional Explanation of Ownership

McIntosh

The variety for which plant variety protection is hereby sought is owned jointly by the University of Georgia Research Foundation (UGARF) and the Florida Agricultural Experiment Station(FAES).

Ownership by UGARF in the variety for which plant variety protection is hereby sought is based on the Invention Administration Agreement of April 1, 1979, which was superseded by the Intellectual Property Administration Agreement of November 8, 1995, between UGARF and the Board of Regents of the University System of Georgia, in which the Board of Regents assigned to UGARF all rights in intellectual property developed or created by employees at The University of Georgia, one of the universities of the University System of Georgia. Rights of novel plant varieties developed at The University of Georgia, including 'McIntosh', are covered by said Administration Agreement. As employees of The University of Georgia, Jerry W. Johnson, Barry Cunfer, and G. David Buntin have assigned their rights in 'McIntosh' to UGARF.

Ron Barnett and Paul Pfahler are employees of FAES.